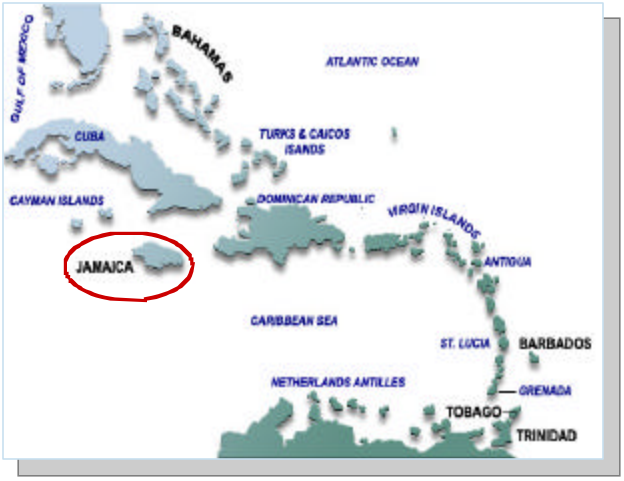
Summary

Jamaica lies in the heart of the Caribbean and there is always a probability that in any given year, the country could be affected by one or more hurricanes. 2004 was a particularly active year and although not suffering a direct hit, hurricane Ivan was responsible for damage equivalent to about 8 percent of the country's Gross Domestic Product. The repair of homes, schools and other structures formed the core of reconstruction activities following the hurricane. This report provides information on the impact of hurricane Ivan and other hurricanes on Jamaica. With emphasis on the building and construction sector, approaches towards relief and re-construction are described.



Overview

Hurricanes are severe tropical storms that can form in the Caribbean, Gulf of Mexico, Atlantic Ocean, or the eastern Pacific. "Fueled" by warm tropical oceans/seas, hurricanes typically move from southeast to northwest and if the right conditions are present, they can produce extremely strong winds, torrential rains, floods and massive coastal waves. Hurricanes rotate in a counterclockwise direction around an eye and have winds of at least 74 miles per hour. In order to summarize the power or likely danger associated with a hurricane, they are often ranked according to category.

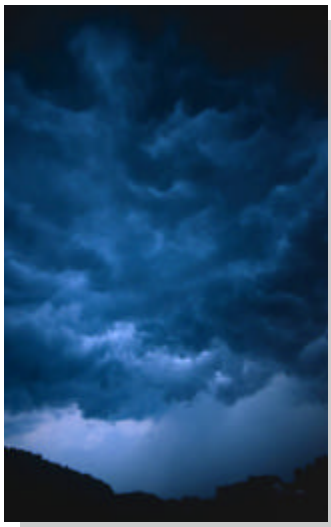
STORM CATEGORY	WIND SPEED (mph)	TYPICAL DAMAGE
1	74 to 95	Minimal: Tree Branches and Power Lines blown down; Signs unanchored; Some coastal flooding
2	96 to 110	Moderate: Large signs blown down; Roof, door and window damage; Large tree branches blown down; Flooding
3	111 to 130	Extensive: Minor damage to buildings; Some walls fail; Trees blown down; Major Storm surge
4	131 to 155	Extreme: Major damage to doors and windows; General wall and roof failure; Trees blown down and uprooted; Storm Surge
5	Over 155	Catastrophic: Buildings, roofs, structures destroyed; Most trees blown down/uprooted; Massive storm surge; Flooding

Each year, the hurricane season begins officially on June 1 and runs for six months (ending on November 30). Over the years, there have been several named hurricanes, which have been responsible for serious damage and destruction in Jamaica. These include Charlie (1951), Flora (1963), Allen (1980), Gilbert (1988) and Ivan (2004).

The type of reconstruction carried out after a hurricane per se largely mirrors the construction activity of the country as a whole. A major difference is that the hurricane related activities are often emergency situations and need to be completed in a short period of time. The aim is to quickly reconstruct or reinforce structures that were there before the disturbance.

For 2004, real GDP for the construction sector in Jamaica grew by 4.7 percent. This represents the largest growth rate and the fifth consecutive year of growth in the construction sector since 1999. A large portion of this growth is directly attributed to reconstruction activities following the passage of Hurricane Ivan. There were also increases in non-residential activities, particularly infrastructural development such as the construction of docks and berths by the Port Authority of Jamaica and expenditure on various highway projects. Residential construction, as borne out by an increase in the number of housing starts and completions, also contributed to the growth of the sector.

Patterns of Damage and Trends



In August 1951, Hurricane Charlie struck Jamaica packing winds of about 125 miles per hour. The whole island was badly hit with southeastern parishes suffering the most. Several homes were destroyed and people sustained injuries from broken windowpanes, flying zinc sheets, collapsed buildings and other wind blown missiles.

Hurricane Gilbert (in 1988) is perhaps the most remembered hurricane in recent history. Scores of people died. While the hurricane severely damaged agriculture, also of significance was the devastating impact on the housing sector. Estimates of damage vary, but it is estimated that 55% of the total housing stock in Jamaica was affected with some 100,000 houses of the low-income category suffering damage estimated to cost in excess of US $558 million. Some 35,000 housing units, which fall in the middle and upper income housing stock suffered damage totalling US $1.4 billion. The impact of hurricane Gilbert was about 65 percent of Jamaica's GDP.

The 2004 hurricane season was one of the most active for Jamaica as well as several other countries in the region. On August 10, Hurricane Charley a category 1 storm, passed along Jamaica's south coast. (Note the spelling is different from Charlie, which struck in 1951). Charley caused extensive flooding in sections of southern Jamaica.

Hurricane Ivan was forecast to pass directly over Jamaica as a category 5 storm between September 10 and 11. However, it seemed to veer to the south and at its closest point of approach, the eye was actually just under 20 miles south of Jamaica's southernmost tip. Although not making landfall, Ivan resulted in over a dozen deaths and caused damage across the island. Storm surges in some locations caused extensive damage to natural coastal systems and housing. Wind damage to vegetation and roofs was also severe, particularly at higher elevations.

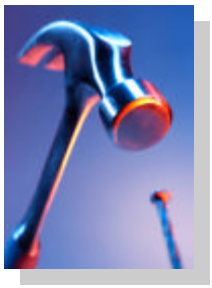
According to the Economic Commission of Latin America and the Caribbean (ECLAC), the total impact of Hurricane Ivan on Jamaica was about US$600 million. Of that amount, 62 percent represents direct damage to a range of assets and the remainder are indirect losses or changes in anticipated economic flows for up to 3 years after the event. The total damage and losses is equivalent to about 8 percent of Jamaica's GDP. The single most affected sector was that of housing, which sustained total damage and losses of 31 percent of the total impact.

Summary of Damage and Losses caused by Hurricane Ivan in Jamaica

SECTOR	DAMAGE (US$ million)	% (Approx)
Housing	180	31
Education	13	2
Health	12	2
Agriculture	138	24
Food Processing	36	6
Mining	17	3
Tourism	26	4
Electricity	23	4
Water Supply	11	2
Transport	53	9
Telecommunications	25	4
Airports	2	<1
Environment*	41	7
Emergency Expenditures	4	<1

*To avoid double counting, the “Environment” category does not include damage to assets already accounted for in other sectors
Source: ECLAC

Hurricane Relief and Reconstruction



Over the years, several national and international organizations have been involved in relief and reconstruction efforts in Jamaica. Financing for the reconstruction has been provided by a combination of grants, donations, local and international fund raising activities, loans and Government of Jamaica (GOJ) resources.

For Gilbert, the loss of and damage to roofs was extensive all over the island. The indications are that building standards varied. In general, well-built roofs remained intact and the roofs of very simple low-cost self-built houses suffered the greatest losses. The Jamaican government spearheaded the introduction of a Building Stamp Programme to facilitate reconstruction and rehabilitation. This service provided one half of the estimated cost of damage to the low-income sector on a grant basis. The remaining half was expected to be provided by the householder.

In 2004, even before hurricane Ivan struck, the Office of Disaster Preparedness and Emergency Management (ODPEM), was involved in organizing the evacuation of hundreds of people from the most vulnerable areas. The National Emergency Operations Centre was activated and a United Nations Disaster Assessment Team was in place. All this preliminary activity helped to improve the efficiency of local emergency activities.

USAID launched a three-part hurricane recovery effort which included: (i) Emergency Relief; (ii) Immediate Recovery; and (iii) Expanded Recovery. Emergency Relief from USAID's Office of Foreign Disaster Assistance (OFDA) was available 2 days after the hurricane. This emergency relief reached families who were displaced by the hurricane and were in urgent need of food, water and shelter. The value of this first part of the recovery effort was US$706,000. The second phase of USAID's recovery program ran from October 2004 to March 2005 and had a value of US$7.3 million. It covered community revitalization, business revitalization as well as the repair of schools and health centers.

In October 2004, U.S. Congress passed a supplemental appropriation that allocated US$100 million for hurricane rehabilitation activities in the Caribbean. Just under 20% of these funds are to be directly allocated to Jamaica. This forms the third phase of the recovery program and under this component, it is anticipated that USAID will repair, reconstruct and construct an estimated 2,560 housing units. It is also expected that there will be the installation of 348 septic tanks for houses that are repaired. There will also be the repair and reconstruction of several schools and health centers.

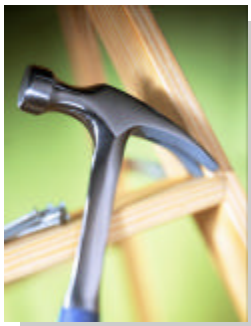
Less than one week after Hurricane Ivan, Jamaica's Prime Minister announced the creation of the Office of National Reconstruction (ONR) to spearhead and manage programs of recovery from hurricane Ivan. Among other things, the ONR would coordinate the work of all Government ministries, departments, and public sector entities involved in the reconstruction effort. It was also designed to ensure the most effective contributions and requisite support from foreign governments, international aid agencies and donor groups. The ONR was initially given a period of six months for its work program. However it was extended for another six months at the beginning of April 2005.

The housing of individual homeowners in Jamaica was the largest single category of need following the hurricane. The estimated losses in this category were about US$ 180 million. After an assessment by Government authorities, there were many beneficiaries through various governmental schemes. The Ministry of Labour and Social Security on October 19, 2004 commenced the distribution of checks to more than 180,000 beneficiaries of the Programme of Advancement Through Health and Education (PATH) and 70,000 National Insurance Scheme (NIS) beneficiaries. As a result of Hurricane Ivan, PATH beneficiaries were allocated an additional amount on their October-November 2004 payments, while several NIS pensioners received a one-time payment towards covering some of their building reconstruction and other expenses.

Assistance in housing reconstruction was also provided by charitable organizations such as Food for the Poor.

According to the ONR, a total of 737 schools were reported as having received structural damage (to varying degrees) as a result of hurricane Ivan. Some of the cost of the repairs comes directly or indirectly through the Government of Jamaica (GOJ). The Jamaica Social Investment Fund (JSIF) using funds provided by the IBRD through the GOJ is repairing about 112 schools. The Ministry of Education is directly responsible for repairing another 127 of them. USAID is repairing 88 schools using U.S. contractors.

Building and Construction Standards



The experience of hurricane Gilbert in 1988 provided a valuable learning opportunity for Jamaicans and played a role in influencing the manner in which hurricane preparations and precautions were to be approached in the future. The issue of upholding proper building standards was recognized as being of great importance. Moves were taken to ensure that planning, design and construction criteria for buildings must take a range of hazards (hurricanes, floods and earthquakes) into consideration.

The Jamaica National Building Code was first published in 1983 and is still the preferred standard used in the construction industry. Moves to develop a Caribbean Uniform Building Code (CUBIC) was announced in 1985 but it was not until after Hurricane Gilbert that there was a concerted call for proper development and administration of national building standards. New Building Standards are being developed through the Government's agency, the Jamaica Bureau of Standards. The Bureau has indicated that the new standards (or "Building Code") will be available by the end of 2005 and will focus on construction in general. Because Jamaica is subject to hurricanes, one expects that the same considerations that influence construction in areas such as Florida will be taken into consideration.

The Kingston and St. Andrew Corporation (KSAC) and Parish Councils island wide, through Building Superintendents and Inspectors, have the responsibility for approving all plans for buildings prior to construction. The applications are assessed with a view for conformity to the set guidelines. However, while the formal sector normally conforms to this level of assessment there are still many challenges being faced especially in ensuring compliance from the informal building sector.

The Construction Resource Development Centre (CRDC) has, since hurricane Gilbert, created simple guidelines for hazard resistant low-income housing construction and has carried out public education strategies, some with the assistance of the Office of Disaster Preparedness and Emergency Management, in helping the homeowner with the strengthening of small dwellings. The CRDC has also done extensive work in safe roofing practices.

Information for U.S. Companies

Key contact points for understanding hurricane relief and reconstruction activities in Jamaica are the Office of Disaster Preparedness and Emergency Management (ODPEM), The Office of National Reconstruction (ONR), The Incorporated Master-builders Association of Jamaica (IMAJ) and the Hardware Merchants Association (HMA).

The IMAJ is an association of Building, Civil Engineering and Specialist contractors. Among the IMAJ's objectives is to seek to maintain standards of excellence in the building and construction industry. They organize regular events that attract the participation of a good cross section of the building and construction sector.

The HMA represents dealers and retailers of hardware and building materials from all over Jamaica. Every two years, the HMA organizes an Expo of which a primary focus is the Building and Construction industry.

Information on hurricane-related and other projects in Jamaica supported by USAID is frequently posted on www.fedbizopps.gov.

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